

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

YOON, Jee Hong

Hannuri Bldg. 219 Naeja-dong, Chongno-gu, Seoul 110-053,  
Republic of Korea

# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year)	<b>24 SEPTEMBER 2004 (24.09.2004)</b>
-------------------------------------	---------------------------------------

Applicant's or agent's file reference FE241498	<b>FOR FURTHER ACTION</b> See paragraph 2 below
---	--

International application No. <b>PCT/KR2004/001878</b>	International filing date (day/month/year) <b>26 JULY 2004 (26.07.2004)</b>	Priority date(day/month/year) 25 JULY 2003 (25.07.2003)
---	--	--

International Patent Classification (IPC) or both national classification and IPC

**IPC7 H03B 28/00**

Applicant

**UTStarcom Korea Limited et al**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.  
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



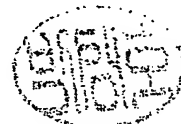
Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

PARK, Sung Ho

Telephone No. 82-42-481-5724



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001878

**Box No. 1 Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001878

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	1 - 4	YES
	Claims	none	NO
Inventive step (IS)	Claims	1 - 4	YES
	Claims	none	NO
Industrial applicability (IA)	Claims	1 - 4	YES
	Claims	none	NO

**2. Citations and explanations :**

**1) Inventive Step**

The following documents were referred to in the International Search Report(ISR):

D1 : JP 10-031529 A (Feb. 03, 1998)      D2 : JP 6-252645 A (Sep. 09, 1994)

D3 : US 5,898,325 A (April 27, 1999)

The present invention relates to an apparatus for generating clock pulses using a Direct Digital Synthesizer(DDS).

D1 discloses a spectrum spreading method of a clock generating circuit and a spectrum spread clock generating device.

D2 discloses a direct digital synthesizer (DDS) comprising: a phase accumulator for generating phase data; periodic signal converters; a phase error signal generating means for generating a phase error signal; a multiplier; and a subtracter.

D3 discloses a dual tunable direct digital synthesizer with a frequency programmable clock and method of tuning.

The subject-matter of Claims 1-4 of the present invention comprises many technical features, but none of the above-mentioned documents D1, D2 or D3 suggest the technical features related to Claims 1-4 of the present invention. In the prior arts of D1, D2 or D3, even if there seem to be partially similar technical features to the present invention, they are different from the technical features of the present invention as a whole. Therefore, the characterizing features of Claims 1-4 of the present invention are considered to involve an inventive step under PCT Article 33(3).

**2) Novelty and Industrial Applicability**

Claims 1-4 of the present invention are considered to be novel and to be industrially applicable under PCT Article 33(2) and 33(4).